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NOTICE OF ALLOWANCE AND FEE(S) DUE

22474 7590 02/06/2009

CLEMENTS BERNARD MILLER
1901 ROXBOROUGH ROAD
SUITE 300
CHARLOTTE, NC 28211

EXAMINER

SANTIAGO CORDERO, MARIVELISSE

ART UNIT

PAPER NUMBER

2617

DATE MAILED: 02/06/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/774,034

02/06/2004

Scott E. Hrastar

4682

7739

TITLE OF INVENTION: SYSTEMS AND METHODS FOR ADAPTIVE LOCATION TRACKING

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	YES	\$755	\$300	\$0	\$1055	05/06/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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10/774,034	02/06/2004	Scott E. Hrastar	4682	7739

TITLE OF INVENTION: SYSTEMS AND METHODS FOR ADAPTIVE LOCATION TRACKING

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nonprovisional	YES	\$755	\$300	\$0	\$1055	05/06/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
SANTIAGO CORDERO, MARIVELISSE	2617	455-456100

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 615 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 615 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability	Application No. 10/774,034	Applicant(s) HRASTAR, SCOTT E.	
	Examiner MARIVELISSE SANTIAGO-CORDERO	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the response filed on 1/20/2009.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | <ol style="list-style-type: none"> 5. <input type="checkbox"/> Notice of Informal Patent Application 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance 9. <input type="checkbox"/> Other _____. |
|--|---|

/VINCENT P. HARPER/
Supervisory Patent Examiner, Art Unit 2617

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Lawrence A. Baratta Jr. on 1/27/2008.
3. The application has been amended as follows:

Claim 1 (Currently Amended). A system for tracking location of a wireless device, the system comprising:

a system data store capable of storing one or more tracking criteria and indicators of one or more wireless devices to track;

a set of one or more wireless receivers on one or more wireless sensors;

the wireless sensors monitoring wireless header information from a wireless packet frame;

a system processor in communication with the system data store and the one or more wireless sensors, wherein the system processor comprises one or more processing elements programmed or adapted to perform the steps comprising of:

(a) identifying a wireless device for tracking based upon a combination of dynamic operational and security assessments derived using data from the system data store, wherein the

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dynamic operational and security assessments identify the wireless device for tracking responsive to behavior of the wireless device, wherein the dynamic operational and security assessments comprise wireless signature-based tests, wireless protocol-based tests, wireless anomaly-based tests, and wireless policy deviation-based tests, wherein the policy deviation-based tests comprise a deviation from a set of ~~[[one]]~~ three or more wireless policy settings comprising wireless channel settings, wireless authentication settings, wireless encryption settings, SSID broadcast settings, and rate settings, and wherein the policy deviation-based tests ensure the wireless device is complying with the one or more wireless policy settings;

(b) receiving data from a subset of the one or more wireless sensors;

(c) storing the received data in the system data store, wherein the received data is utilized to update wireless statistics used in the dynamic operational and security assessments, wherein the wireless statistics enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior;

(d) calculating the position of the identified wireless device based upon the stored data;
and

(e) outputting the calculated position.

Claim 19 (Currently Amended). A method for tracking location of a wireless device, the method comprising the steps of:

(a) detecting a wireless device utilizing one or more dynamic operational and security assessments, wherein the one or more dynamic operational and security assessments detect the

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wireless device responsive to behavior of the wireless device, and wherein the dynamic operational and security assessments comprise wireless signature- based tests, wireless protocol-based tests, wireless anomaly-based tests, and wireless policy deviation-based tests, wherein the policy deviation-based tests comprise a deviation from a set of ~~[[one]]~~ three or more wireless policy settings comprising wireless channel settings, wireless authentication settings, wireless encryption settings, SSID broadcast settings, and rate settings, and wherein the policy deviation-based tests ensure the wireless device is complying with the one or more wireless policy settings;

(b) adding an indicator associated with the detected wireless device to a list of wireless devices;

(c) selecting a wireless device for tracking based upon the list of wireless devices;

(d) receiving data from one or more wireless sensors, the wireless sensors monitoring wireless header information from a wireless packet frame; wherein received data is utilized to update wireless statistics used in the dynamic operational and security assessments, wherein the wireless statistics enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior;

(e) calculating a position of the selected wireless device based upon the received data;

(f) outputting the calculated position;

(g) repeating steps (a) and (b) upon occurrence of an event or at periodic intervals;

(h) repeating steps (c) through (f) upon occurrence of an event or at periodic intervals.

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Claim 21 (Currently Amended). A system for tracking location of a wireless device, the system comprising:

storing means for storing one or more tracking criteria and indicators of one or more wireless devices to track;

one or more wireless sensors for scanning wireless traffic; the wireless sensors monitoring wireless header information from a wireless packet frame;

distributed rogue detection means for detecting a wireless device based upon one or more dynamic operational and security assessments operable to detect the wireless device based on behavior, wherein the assessments are performed on the received scan data, and for storing an indicator of the detected wireless device, wherein the distributed rogue detection means is distributed between the one or more wireless sensors and a host system; and

position determining means for selecting a wireless device to track from the indicators in the storing means, receiving scan data from one or more wireless receivers, estimating the position of the selected wireless device based upon received scan data and outputting the estimated position;

wherein the dynamic operational and security assessments comprise wireless signature-based tests, wireless protocol-based tests, wireless anomaly-based tests, and wireless policy deviation-based tests, and wherein the policy deviation-based tests ensure the wireless device is complying with the one or more wireless policy settings;

wherein the policy deviation-based tests comprise a deviation from a set of ~~[[one]]~~ three or more wireless policy settings comprising wireless channel settings, wireless authentication settings, wireless encryption settings, SSID broadcast settings, and rate settings; and wherein

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received scan data is utilized to update wireless statistics used in the dynamic operational and security assessments, and

wherein the wireless statistics enable the dynamic operational and security assessments to detect both unauthorized wireless devices and authorized wireless devices which are displaying anomalous behavior.

Allowable Subject Matter

4. Claims 1-21 are allowed.

5. The following is an examiner's statement of reasons for allowance:

Claims 1, 19, 20, and 21 are allowed because the closest prior art, Challenger (Pub. No.: US 2003/0186679) in views of Zuk et al. (Pub. No.: US 2003/0154399) and Campbell et al. (Patent No.: US 6,893,850), either alone or in combination, fail to anticipate or render obvious a system, computer readable media, and a method for tracking location of a wireless device comprising one or more wireless sensors, the wireless sensors monitoring wireless header information from a wireless packet frame, wherein the policy deviation-based test comprise a deviation from a set of three or more wireless policy settings comprising wireless channel settings, wireless authentication settings, wireless encryption settings, SSID broadcast settings, and rate settings, in combination with all other limitations in the claim(s) as defined by applicant.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Zavidniak (Patent No.: US 7,068,998) discloses a methodology for the detection of intrusion into radio frequency based networks and Bruton, III et al. (Patent No.: US 7,076,803) discloses intrusion detection services.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARIVELISSE SANTIAGO-CORDERO whose telephone number is (571)272-7839. The examiner can normally be reached on Monday through Friday from 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on (571) 272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VINCENT P. HARPER/

Supervisory Patent Examiner, Art Unit 2617

/MARIVELISSE SANTIAGO-CORDERO/

Examiner, Art Unit 2617